

What is claimed is:

1. A method of analyzing transaction data representing a plurality of transactions, comprising:

- 5                     (a) selecting data representing a first label from said transaction data;  
                       (b) identifying a first set of transaction data, said first set of transaction data  
                       representing:

10                     said first label and said first label's associated data attributes; one or  
                       more labels and their associated data attributes performed before said  
                       first label;

15                     and one or more labels and their associated data attributes performed  
                       after said first transaction; and

- 20                     (c) presenting said first set of transaction data based upon said data  
                       representing said first label.

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2. The method of claim 1, wherein:

25                     said labels comprise pages; and  
                       said transaction data comprises clickstream data.

30                     3. The method of claim 1, wherein:

35                     said step of identifying a first set of transaction data includes analyzing  
                       transaction session data.

4. The method of claim 1, wherein:

the step of presenting said transaction data includes displaying a graphical data representation of said first set of transaction data.

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5. The method of claim 4, wherein:

the step of presenting said transaction data comprises displaying a graphical data representation of said first set of transaction data on a single screen.

10 6. The method of claim 1, further comprising the step of:

performing transaction measurement calculations on said transaction data.

15 7. The method of claim 6, wherein said step of performing said transaction measurement calculations is performed before the step of presenting said first set of transaction data.

8. The method of claim 6, further comprising the step of:

combining said transaction data into a data structure.

20 9. The method of claim 8, wherein:

said data structure is a COLAP-graph data structure.

10. The method of claim 9, further comprising the step of:

storing said combined transaction data COLAP-graph data structure on a computer-readable medium.

5 11. The method of claim 8 wherein:

said data structure is a hybrid COLAP-graph data structure.

12. The method of claim 8 wherein:

said data structure is a plurality of multidimensional arrays.

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13. The method of claim 1, wherein said group of individual transactions are ordered.

14. The method of claim 13, wherein said order is chronological.

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15. A method of analyzing transaction data representing a plurality of transactions comprising;

selecting data representing a subset of said plurality of labels from said transaction data;

20 for the labels in said subset, identifying a first set of transaction data, said first set of transaction data representing;

said subset of labels and said subset labels' associated data attributes,

one or more labels and their associated data attributes performed before any of said subset of labels, and

one or more labels and their associated data attributes performed after any of said subset of transactions; and

5 for each label in said subset, presenting said first set of transaction data.

16. A computer-readable medium having stored thereon a data structure

representing transaction data comprising:

a first field containing data representing a number occurrences of a label; and

10 a second field containing data representing transitions between said first label and the same or another label.

17. The computer-readable medium and data structure of claim 16, wherein:

15 said first field contains data attributes of transaction data passing through said first label.

18. The computer-readable medium and data structure of claim 16, further

comprising:

20 a third field containing data representing an identification of said first label.

19. The computer-readable medium and data structure of claim 17, wherein:  
said third field contains the name of said first label.
20. The computer-readable medium and data structure of claim 17, further  
5 comprising:  
a graph of said data structures.
21. The computer-readable medium and data structure of claim 17, wherein:  
said data representing a number of visits to a first label are stored in an OLAP  
10 cube.
22. The computer-readable medium and data structure of claim 20, wherein:  
said OLAP cube further stores data attributes of transaction data passing  
through said first label.
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23. The computer-readable medium and data structure of claim 22, further  
comprising:  
a graph of said data structures.
- 20 24. The computer-readable medium and data structure of claim 16, wherein:  
said data representing a number of visits to a label are stored in a plurality of  
multidimensional arrays.

25. The computer-readable medium and data structure of claim 24, wherein:  
said plurality of multidimensional arrays stores transaction attribute data in  
addition to said data representing a number of visits to a label.

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26. The computer-readable medium and data structure of claim 25, further  
comprising:

a graph of said data structures.

10 27. The computer-readable medium and data structure of claim 16 wherein:  
said representations of transitions between individual labels are pointers.

28. An apparatus for analyzing transaction data comprising a group of transactions  
comprising:

15 means for selecting a label of interest from a said transaction data;  
means for identifying one or more adjacent labels performed before or after  
said label of interest, said transaction data comprising an identification of said one  
or more adjacent labels; and  
presenting said transaction data based on said label of interest.

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29. The apparatus of claim 28, wherein:

said labels comprise pages; and

said transaction data is clickstream data.

30. The apparatus of claim 29, wherein:

means for selecting an individual label from a group of individual labels  
5 comprises means for selecting a plurality of individual labels within a set of  
transaction data.

31. In a computer system having a graphical interface including a display device  
and a selection device, a method of displaying information on the display device in a  
10 menu form and accepting menu selection input from a user, the method comprising:

retrieving a set of menu entries for the menu, each of the menu entries  
representing an action to perform upon transaction data;

displaying the set of menu entries on the display device;

displaying a set of parameters on the display device;

15 providing the user an opportunity to modify said set of parameters;

receiving an indication of a menu entry selection from the user via the  
selection device; and

in response to said indication of a menu entry selection, performing a search  
of a database for transaction data that meet criteria established by said menu entry  
20 selection and by said set of parameters.

32. A set of application program interfaces embodied on a computer-readable medium for execution on a computer in conjunction with an application program that presents transaction data of interest to a user, comprising:

a first interface that receives parameters for a set of transaction data

5 attributes;

a second interface that receives an individual label identifier;

a third interface that receives transaction data; and

a fourth interface that receives parameters for a first group of transaction data and said individual label identifier and returns a second group of transaction data,  
10 wherein said second group of transaction data matches said individual transaction's identifier and said first group of transaction data attributes.

33. A method of aggregating data, comprising:

creating a COLAP-graph representation of said data.

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34. The method of claim 33, wherein said data is transaction data.

35. The method of claim 34, further comprising:

storing said COLAP-graph on a computer readable medium.

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36. The method of claim 33, wherein:

said COLAP-graph is a hybrid COLAP graph.

37. A method of analyzing clickstream data comprising:

- (a) gathering clickstream data from a Web-site;
- (b) creating a COLAP-graph representation of said clickstream data, said  
5           COLAP-graph containing a separate data structure for each page in said  
             clickstream data;
- (c) visualizing said clickstream data on a display device;
- (d) selecting data representing a subset of said plurality of pages from said  
             clickstream data;
- 10           (e) for each page in said subset, identifying a first set of transaction data, said  
             first set of transaction data representing said subset of pages and said subset  
             pages' associated data attributes, one or more pages and their associated data  
             attributes performed before any of said subset of pages, and one or more  
             pages and their associated data attributes performed after any of said subset  
             of transactions; and
- 15           (f) presenting said first set of transaction data for each page in said subset.